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REMARKS

Claims 1-22 remain pending.

In the Office Action, the Examiner rejected claims 1-5, 7-11, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Nakano (U.S. Patent No. 6,831,621); rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Funamoto et al. (U.S. Patent No. 6,980,225); rejected claims 15-17 under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of Ishihara (U.S. Patent No. 6,426,736); stated that claims 12, 18, and 19 would be allowable if rewritten in independent form; and stated that claims 20-22 are allowed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2143.

Applicants respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 1-5, 7-11, 13, and 14. A *prima facie* case of obviousness has not been established in the first instance, because even if it were proper to modify Nakano as suggested, it still fails to teach or suggest all claim limitations. Independent claim 1 requires a system including, *inter alia*, "a display driver . . . to adjust the backlight frequency of the backlight based on the refresh rate of the display." Independent claim 9 requires a method including, *inter alia*, "determining a desired modulation frequency for the backlight based on the new refresh rate of the display." Nakano, even if modified as proposed, fails to teach or suggest all limitations of claims 1 and 9, and their dependent claims 2-5, 7, 8, 10, 11, 13, and 14.

Page 3 of the Office Action seems to imply that some portion of the Third Preferred Embodiment and/or Fourth Preferred Embodiment described in cols. 15 and 16 of Nakano is considered to teach or suggest the claimed adjust[ing] or determining a backlight modulation frequency "based on the [] refresh rate of the display."

This implication is simply incorrect. Cols. 15 and 16 of Nakano do not teach or suggest determining or adjusting anything based on a display refresh rate. Rather, Nakano discloses only changing the order of RGB subframe illumination based on comparing averaged color values and a frame-to-frame difference level. See col. 15, lines 11-24, which state:

> The greater the difference between subframes, the greater the average values Av_R, Av_B and Av_G. Comparator circuits 73, 74, 75 compare the average values Av_R, Av_B and Av_G, respectively, with a frame-to-frame difference level AMOU stored in the register 43, and output an H level comparison signal when the former is greater than the latter. The comparison signal is transmitted to the main controller 5. If the main controller 5 receives the H level comparison signal a plurality of times in succession throughout a predetermined number of frames, the main controller 5 judges that the difference between subframes is large, and outputs the display order switching signal S1 at an L level to the toggle operation circuit 80 until the signal level of the comparison signal changes to "L."

Neither the average RGB values nor the difference level AMOU reasonably teach or suggest the claimed "based on the refresh rate of the display;" the subframes are reordered solely based on inter-frame color differences.

Thus, Nakano as it is proposed to be modified fails to teach or suggest at least adjust[ing] or determining a backlight modulation frequency "based on the [] refresh rate of the display," as required by claims 1 and 9 (and their dependent claims). A *prima facie* case of obviousness has not been established for claims 1-5, 7-11, 13, and 14, and the § 103(a) rejection should be withdrawn for at least this reason.

Incredibly, a *prima facie* case of obviousness also has not been established for claims 1-5, 7-11, 13, and 14, because there is *not* a reasonable expectation of success in the proposed modification (see M.P.E.P. § 2143.02). Note that Fig. 29 of Nakano cited by the Examiner on page 2 of the Office Action is actually prior art (see col. 1, lines 63-65; and col. 5, lines 34-36) to the detailed description of Nakano that the Examiner seeks to add to Fig. 29. Nakano actually states that the device 300 in Fig. 29 in cannot perform the modification proposed by the Examiner. See col. 3, lines 21-25, which provide (with emphasis added):

> Unfortunately, the background art liquid crystal display devices 300 and 311 are **incapable of controlling a change in display order** of subframes for the input display data DD **and of controlling the "on" period** and display brightness **of the LEDs for each color**.

A *prima facie* case of obviousness has not been established for claims 1-5, 7-11, 13, and 14, because there is no expectation of success of the proposed modification of Nakano, as explicitly stated above by Nakano.

Finally, a *prima facie* case of obviousness has not been established for claims 1-5, 7-11, 13, and 14, because there is no suggestion or motivation to modify Nakano as proposed. In fact, Nakano teaches directly away from the proposed modification, because such a modification of Nakano would necessarily alter the principle of operation of the reference. See M.P.E.P. § 2145(X)(D) ("proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference"). As quoted above, Nakano discloses that device 300 (on which the Examiner relies on page 2 of the Office Action) is "incapable of controlling a change in display order of subframes . . . and of controlling the "on" period and display brightness of the LEDs for each color." In the face of such an explicit teaching away, one of ordinary skill certainly would not have been motivated to modify Nakano as proposed. Accordingly, the § 103(a) rejection of claims 1-5, 7-11, 13, and 14 should be withdrawn.

Regarding claim 6, the addition of Funamoto et al., even if it were proper, fails to cure the deficiencies noted above in the rejection of claims 1 and 5, from which it depends.

Applicants also respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 15-17. A *prima facie* case of obviousness has not been established, because even if it were proper to combine Nakano and Ishihara as suggested, the combination still fails to teach or suggest all claim limitations. Independent claim 15 requires a system including, *inter alia*, "a coordinator to coordinate between the refresh rate [of the panel] and the modulation frequency [of the modulator] when the refresh rate or the modulation frequency is changed." The combination of Nakano and Ishihara fails to teach or suggest all limitations of claims 15 and 16.

Page 9 of the Office Action discusses *only* the RGB LEDs (i.e., the backlight) and cites col. 17, lines 10-18 of Nakano, which provide:

> control is exercised so that the duty ratio of the PWM pulses to be applied to the red LEDs gradually increases whereas the duty ratio of the PWM pulses to be applied to the green LEDs gradually decreases. In the early stage of a B subframe display period, control is exercised so that the duty ratio of the PWM pulses to be applied to the red LEDs gradually decreases whereas the duty ratio of the PWM pulses to be applied to the blue LEDs gradually increases.

Neither page 9 of the Office Action nor the above-quoted portion of Nakano mention coordinating "between the refresh rate of the panel" and anything. Thus, a *prima facie* case of obviousness has not been established, and the § 103(a) rejection of claims 15-17 should be withdrawn.

Reconsideration and allowance of claims 1-22 are respectfully requested.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact Alan Pedersen-Giles, attorney for Applicants, at the number below to discuss such matters.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0221 and please credit any excess fees to such deposit account.

Respectfully submitted,

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